

Starting Seed Indoors

Jump Start your Garden



I WANT TO GROW
MY OWN FOOD,
BUT I CAN'T FIND
ANY BACON SEEDS.

MASTER GARDENER MISSION STATEMENT

- Extension Master Gardeners are trained volunteer educators. They work within their local communities to encourage and promote ***environmentally sound*** horticulture practices through sustainable landscape management education and training. As an educational outreach component of Virginia Cooperative Extension, the Master Gardener program brings the resources of Virginia's land-grant universities – Virginia Tech and Virginia State University – to the people of the commonwealth. All volunteers are trained and have at least 50 hours of horticultural classes and return at least 20 hours of volunteer community service through their local Extension office.

SPRING IS NEAR!



Overview

- Why we grow from seeds
- What is a seed
- Types of seeds
- What you'll need
- When ?
- Where?
- How?
- Hands on Demo

WHY DO WE GROW FROM SEEDS?

- Cost- 1/10 the price of purchased plant.
- Variety-wider selection.
- Hobby (more money spent on gardening than any other hobby).
- Health conscious (organic, no GMOs).

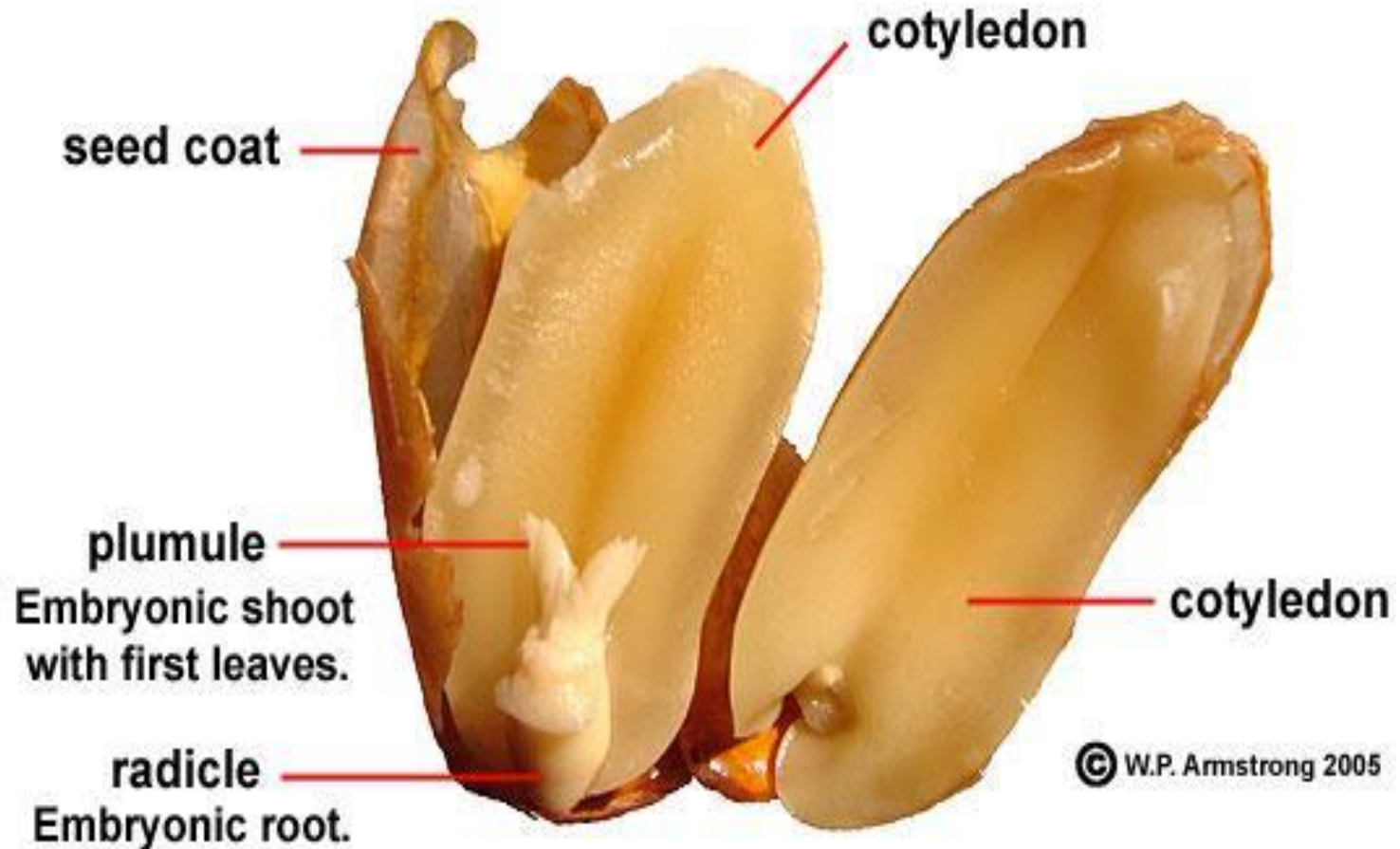


WHAT IS A SEED?



A flowering plant's unit of reproduction, capable of developing into another such plant.

PARTS OF A SEED



Peanut Seed (*Arachis hypogaea*)

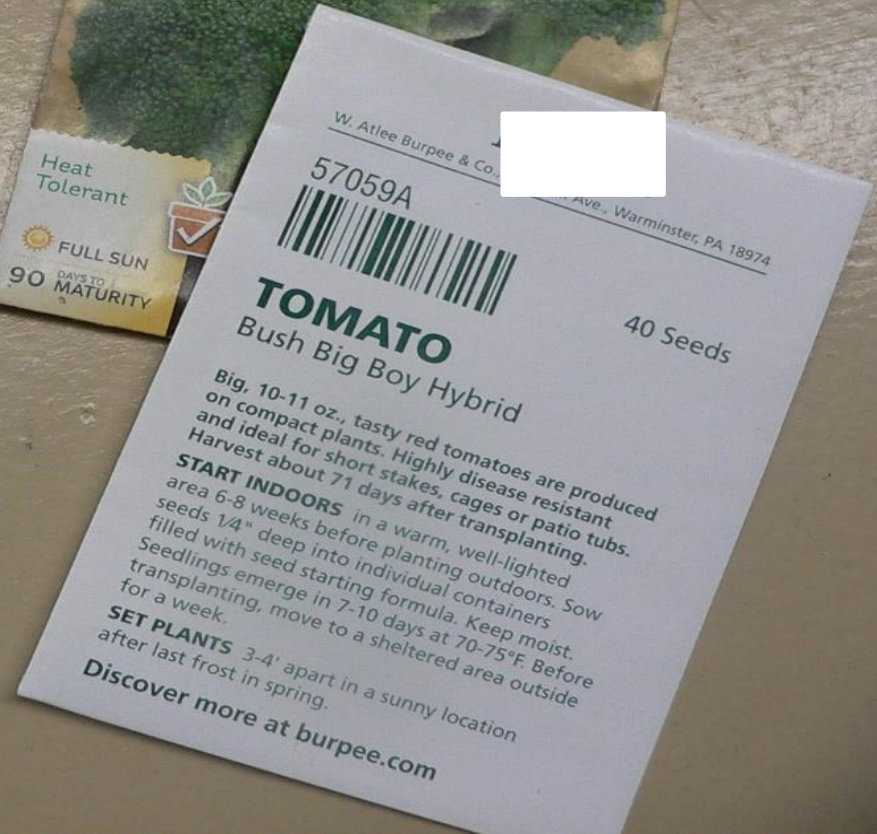
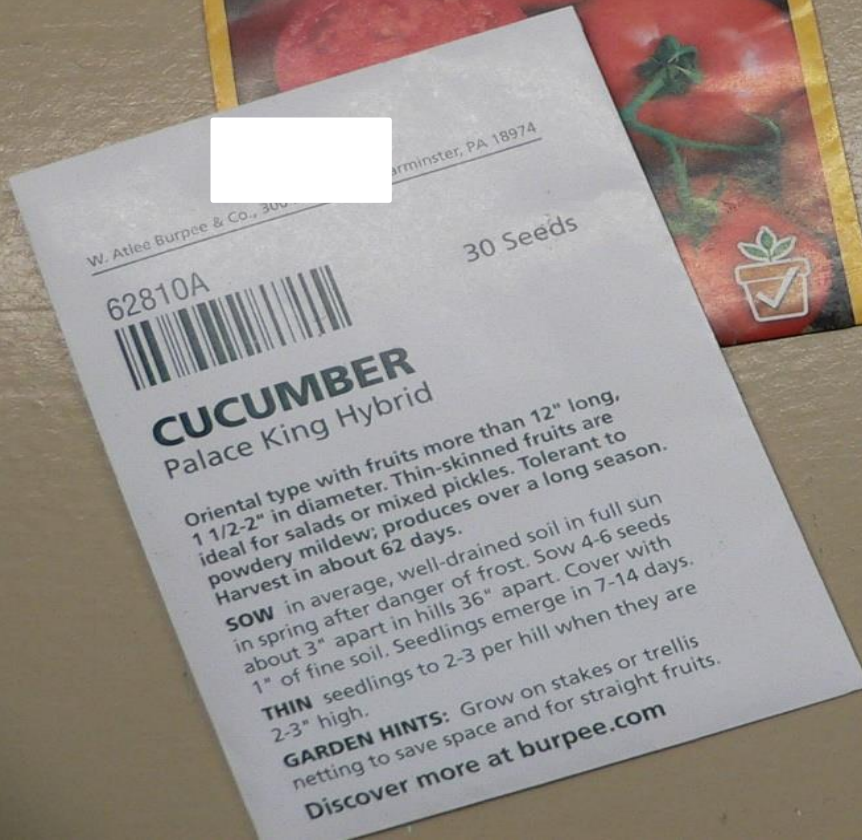
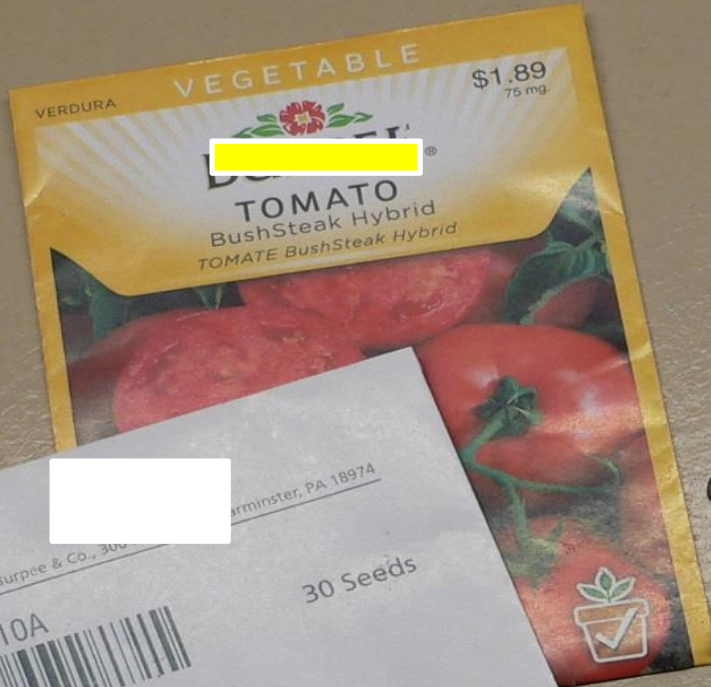
SOME TYPES OF SEEDS

- Hybrid
- Organic
- Pelleted
- Treated
- Heirloom
- GMOs

Hybrid seeds

- Hybrids are bred to improve the characteristics of the resulting plants, such as better yields, greater uniformity, improved color and disease resistance. Ex – corn, hybrid tomato.
- In agriculture and gardening, hybrid seed is seed produced by cross-pollinated plants. Hybrid seed production is predominant in agriculture and home gardening. It is one of the main contributors to the dramatic rise in agricultural output during the last half of the 20th century.

HYBRID SEEDS



ORGANIC

- Organic seed comes from organic farms. Organic farming uses integrated pest management (no synthetic insecticides or fertilizers). If you plant a seed that is ***not*** certified organic, your resulting plant will still be organic if you yourself do not use synthetic fertilizers, insecticides, or other chemicals.

ORGANIC



Green Zebra

TOMATO *Solanum lycopersicum*

86 days. These
unique medium-

PELLETED

- The use of pelleted seed results in a more uniform stand, less seed actually being used, and less time spent thinning. The pellets are made of inert materials which dissolve as they absorb moisture, allowing immediate access to oxygen for fast, uniform seedling emergence.

PELLETED



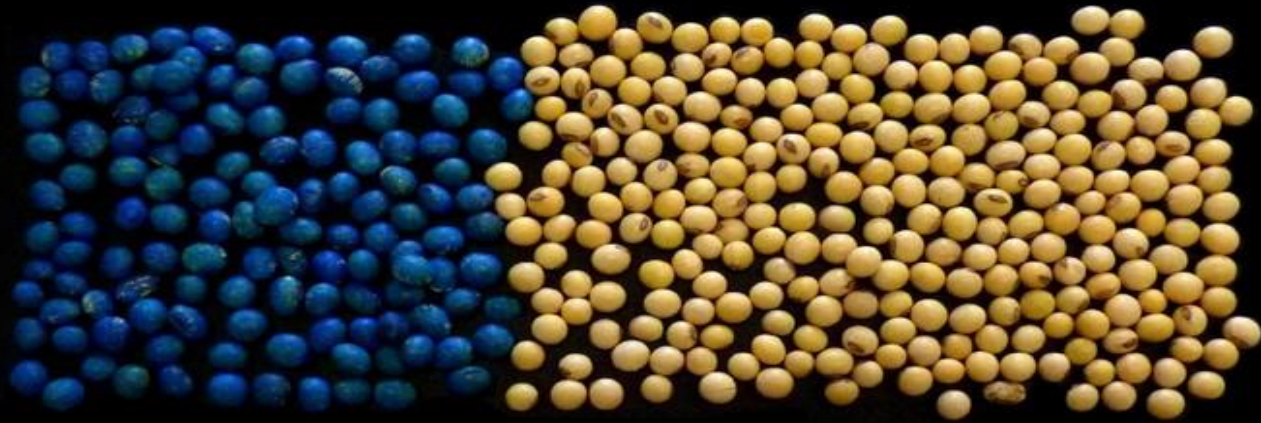
PELLETED SEED



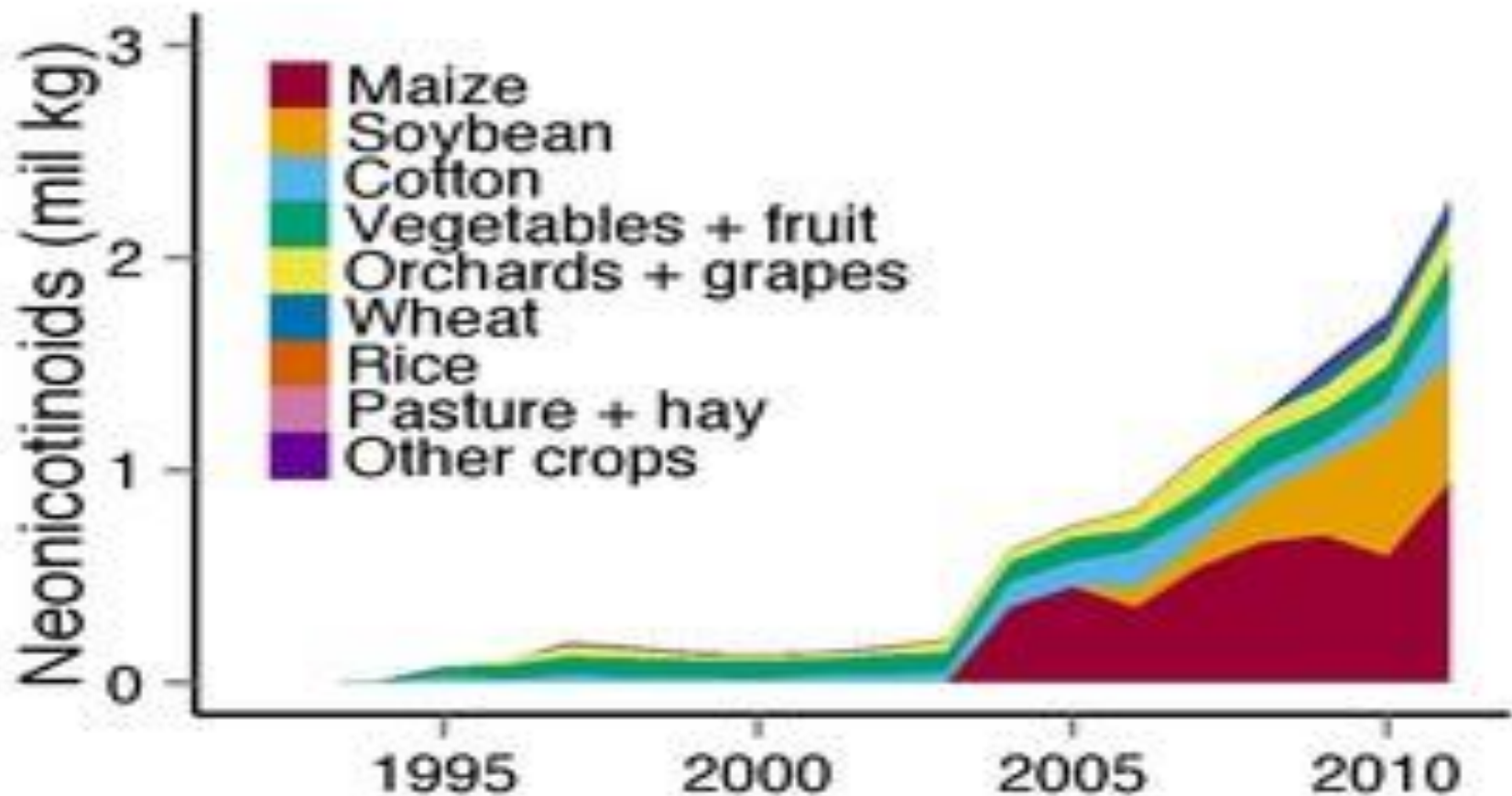
TREATED SEEDS

- Treated means given an application of a pesticide or subjected to a process designed to reduce, control or repel disease organisms, insects, or other pests that attack seed or seedlings grown from treated seed.

TREATED



TREATED



UPDATE ON NEONICS

- April, 2018. The European Union plans to ban the world's most widely used insecticides in an effort to protect bees and other valuable pollinator insects.
- The ban, approved by member countries, targets insecticide compounds known as neonicotinoids (also called neonics for short). The ban is expected to come into force by the end of the year and will prohibit outdoor use of the chemicals (they may still be used inside greenhouses).
- Neonics were introduced in the late 1980s as a safer alternative to older insecticides that are more toxic. Yet a growing body of research has pointed to environmental problems with their use.

UPDATE ON NEONICS

- **Agricultural Research Service (ARS), USDA's in-house scientific research agency:** The pesticide class neonicotinoids (for example, clothianidin, thiamethoxam, and imidacloprid) has been accused of damaging or killing honey bees or being the cause of CCD even when the exposure is below the level expected to be toxic. The nicotine-based neonicotinoids were developed in the mid-1990s in large part because they showed reduced toxicity to wildlife compared with previously used organophosphate and carbamate insecticides.

Heirloom Seeds

- Many gardeners consider 1950 to be the latest year a plant can have originated and still be called an heirloom, since that year marked the widespread introduction of the first hybrid varieties. It was in the 1970s that hybrid seeds began to proliferate in the commercial seed trade. Some heirloom varieties are much older, some being apparently pre-historic

Heirloom Seeds



GMO (Genetically Modified)

- GMO -seeds that have been genetically engineered for faster growth, resistance to pathogens, production of extra nutrients, or any other beneficial purpose. Ex. -Corn, soybeans, cotton (for oil), canola (also a source of oil).

Germination

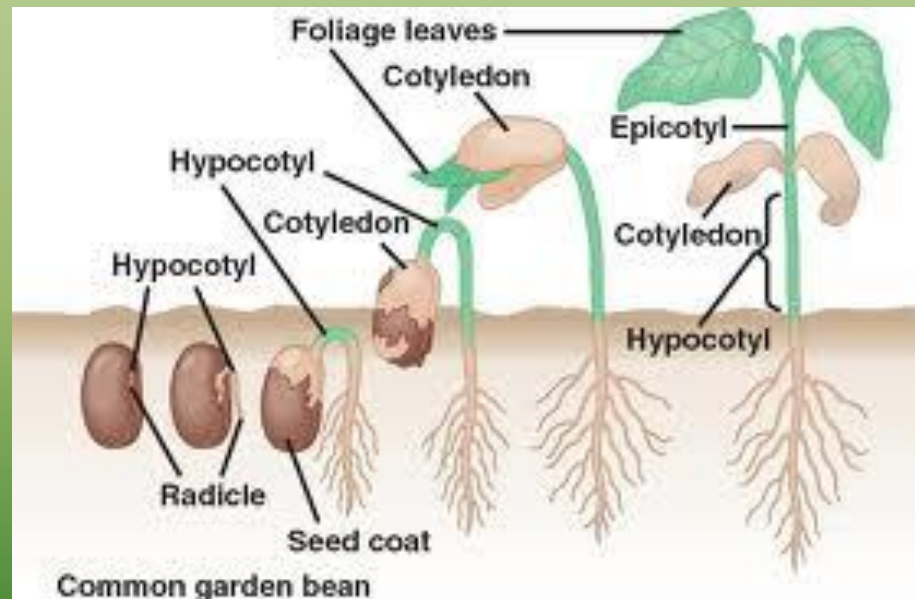
- Germination is the growth of an embryonic plant contained within a seed; it results in the formation of the seedling.



Germination

Four factors are need for germination.

1. Water
2. Oxygen
3. Light
4. Temperature



U.S. federal standards require a
75% germination rate for
commercially-produced seeds. Buy
them and they will germinate!

www.tomatodirt.com



STRATIFICATION OF SEEDS

In nature, some seeds (many trees, shrubs, & perennials) require certain conditions in order to germinate. Seed stratification is the process whereby seed dormancy is broken in order to promote this germination. In order for the stratification of seeds to be successful, it is necessary to mimic the conditions that they require when breaking dormancy in nature.



SCARIFICATION OF SEEDS

- Scarification involves weakening, opening, or otherwise altering the coat of a seed to encourage germination. Scarification is often done mechanically, thermally, and chemically. The seeds of many plant species are often impervious to water and gases, thus preventing or delaying germination.



TESTING SEEDS



GERMINATING SEEDS IN PAPER TOWEL



GERMINATING SEEDS IN A PAPER TOWEL



GERMINATING SEEDS IN A PAPER TOWEL



GERMINATING SEEDS IN A PAPER TOWEL



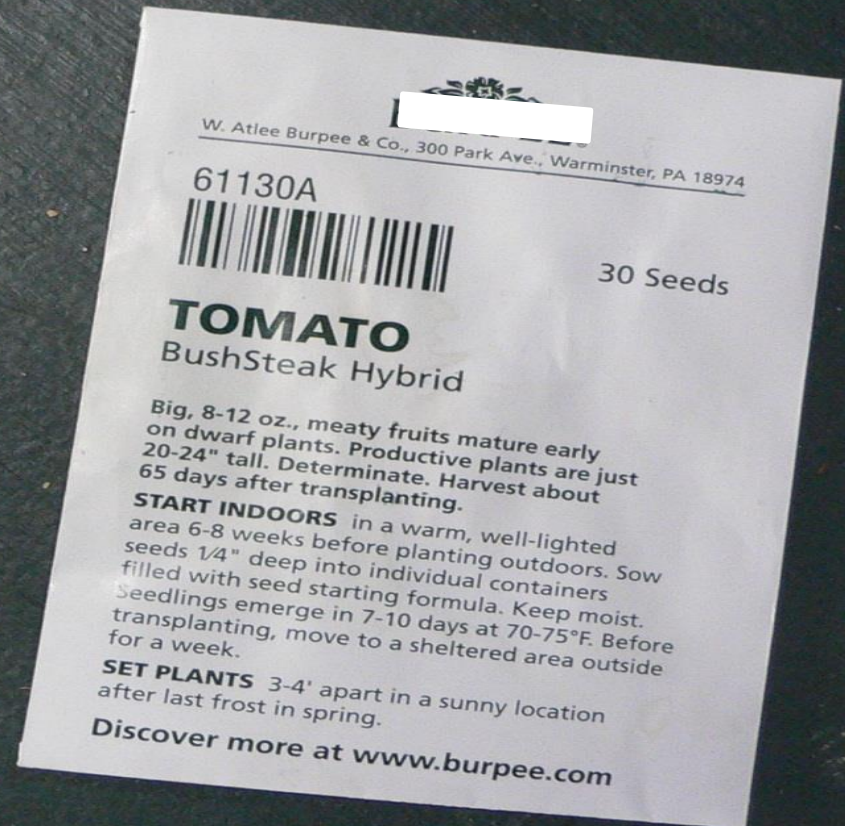
GERMINATING SEEDS IN A PAPER TOWEL



When?

Crop (plant0	Start indoors	Start outdoors
Beans		April 6-20
Beets		March 16-april 27
Broccoli	February 8-22	March 16-23
Brussels Sprouts	February 8-22	March 16-23
Cabbage	February 8-22	March 30-April 13
Carrots		March 1-9
Cauliflower	February 8-22	March 30-april 13
Celery	February 8-22	
Corn		April 20-27
Cucumbers	March 8-23	April 13-20
Lettuce	March 22-April 8	March 30-April 20
Melons	March 8-23	April 20-27
Onions		March 8-16
Parsnips		March 16-April 6
Peas		February 22 March 8
Peppers	February 10-18	
Potato (tubers)		April 6-20
Pumpkins	March 8-23	April 13-20
Radishes		March 30-April 13
Squash (summer)	March 8-23	April 13-20
Squash (winter)	March 8-23	April 13-20
Tomatoes	Feb 8-22	Apr 20-27

CONSULT SEED PACKAGE.



PEEL BACK FLAPS
MORE INFO INSIDE



CUCUMBER

Armenian Burpless

Cucumis melo var. flexuosus

Days to Emerge:
5 - 10 Days

Seed Depth:
1/2"

Seed Spacing:
A group of 3 seeds
every 12"

Row Spacing:
4'

Thinning:
When 3 leaves, thin
to 1 plant every 12"

Illustrated by
Marjorie Leggitt

Want to try something new in your garden? This is it! Armenian cucumber with handsome, light green, thin skin is nearly seedless, and more tolerant of heat than most cucumbers. Sometimes called serpent cucumber or yard long, it is actually a variety of melon! A long production period means harvesting right into fall. *This packet plants one 10 foot row or two 5 foot rows.*

When to sow outside: RECOMMENDED.
1 to 2 weeks after average last frost and when soil temperatures are warm.
When to start inside: 4 to 6 weeks before average last frost.

★ ALL OUR SEEDS
ARE UNTREATED

NO
GMOs

© Botanical Interests, Inc.
660 Compton Street
Broomfield, Colorado 80020
www.botanicalinterests.com

Lot #1 • Packed for 2013
Sell by 12/31/2013



Space-saving plants produce abundant crop of bright green, 11" fruit. Mosaic resistant.



DEPTH: 1 in.
PROFUNDIDAD: 2.5 cm



THIN: 2-3 per group
SEMILLAS DELGADAS:
2 ó 3 por grupo



HARVEST: 55 days
COSECHA: 55 días

FOR PLANTING & CARE INSTRUCTIONS

videos and more, snap the colored code on the front with your smart phone after downloading the free app at <http://gettag.mobi> or enter the plant code on-line at lowes.com/plants

Plant Code **L20166** or visit burpee.com/more/66737

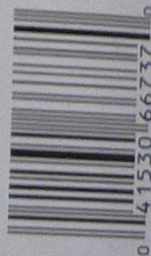


Direct Sow

- June-July / jun-jul
- May-July / may-jul
- Apr-Aug / abr-ago
- Mar-Sept / mar-sep

SOW in average, well-drained soil in full sun in spring after danger of frost. Sow 4-6 seeds about 3" apart in hills 36" apart. Cover with 1" of fine soil, firm lightly and keep evenly moist. Seedlings emerge in 7-14 days.

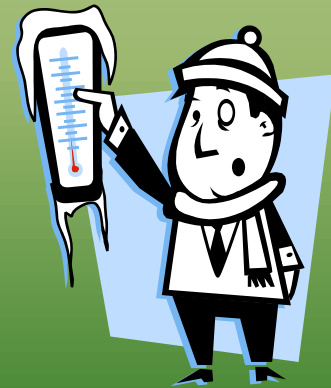
SIEMPRE en suelo regular, con buen drenaje y a pleno sol en primavera una vez pasado el peligro de heladas. Siembre de 4 a 6 semillas cada 7.6 cm aproximadamente en montículos separados a una distancia de 91.4 cm uno del otro. Cubra con una capa de 2.5 cm de tierra fina, afirme ligeramente y mantenga una humedad pareja. Las plántulas emergen entre los 7 a 14 días.



PACKED FOR 2013 SELL BY 11/13
ORIGIN USA LOT 11

When?

- Count back 6-8 weeks from last frost date
- For Mechanicsville Area
(50 % probability of frost free after April 6,
90% frost free date is April 28)



Where? Indoors

- Keep in mind that the ambient temperature should be between 65 and 70 degrees. You will be using artificial light so access to power outlets may be a consideration as well. And if you have small children or curious pets that innocently enjoy upsetting a good project like this you may want to think about keeping your growing seeds out of reach.

Where?



Where?



Where?



WHERE?



WINDOW SILL

- South facing window.
- At least 6-7 hour strong sun per day.



DAYLIGHT FOR STARTING SEEDS

- Seedlings apt to stretch towards the light in one direction, instead of upwards
- Potential for burning tender first leaves of seedlings



How? Indoors

What you'll need

- Seeds
- Seed sower (optional)
- Water & Water mister
- Seed starting medium & potting soil
- Seed starting trays, egg cartons, etc.
- Individual seedling containers
- Artificial lighting
- Heat mat (optional).
- Timer (for lights)
- Labels/Marking Pen

WHAT YOU'LL NEED

Seeds

Seed sower
(optional)



Basil seed



USE QUALITY SEEDS

Read reviews before you buy
any seeds.

Check reviews of companies at
The Garden Watchdog forum,
a free directory of 7,000+ mail
order gardening companies.

WATER & MISTER



What you'll need

Starting trays



Starting trays



STARTING TRAYS



STARTING TRAYS

Safe



Unsafe

Polystyrene contains the toxic substances Styrene and Benzene, suspected carcinogens and neurotoxins that are hazardous to humans. Hot foods and liquids actually start a partial breakdown of the Styrofoam, causing some toxins to be absorbed into our bloodstream and tissue.



STARTING TRAYS



STARTING TRAYS



STARTING TRAYS



STARTING TRAYS



Starting trays & pellets



SEED STARTER MEDIUM



POTTING SOIL (SOILLESS MIXTURE)



POTTING SOIL -NOT!!!





SEEDLING CONTAINERS



SEEDLING CONTAINERS



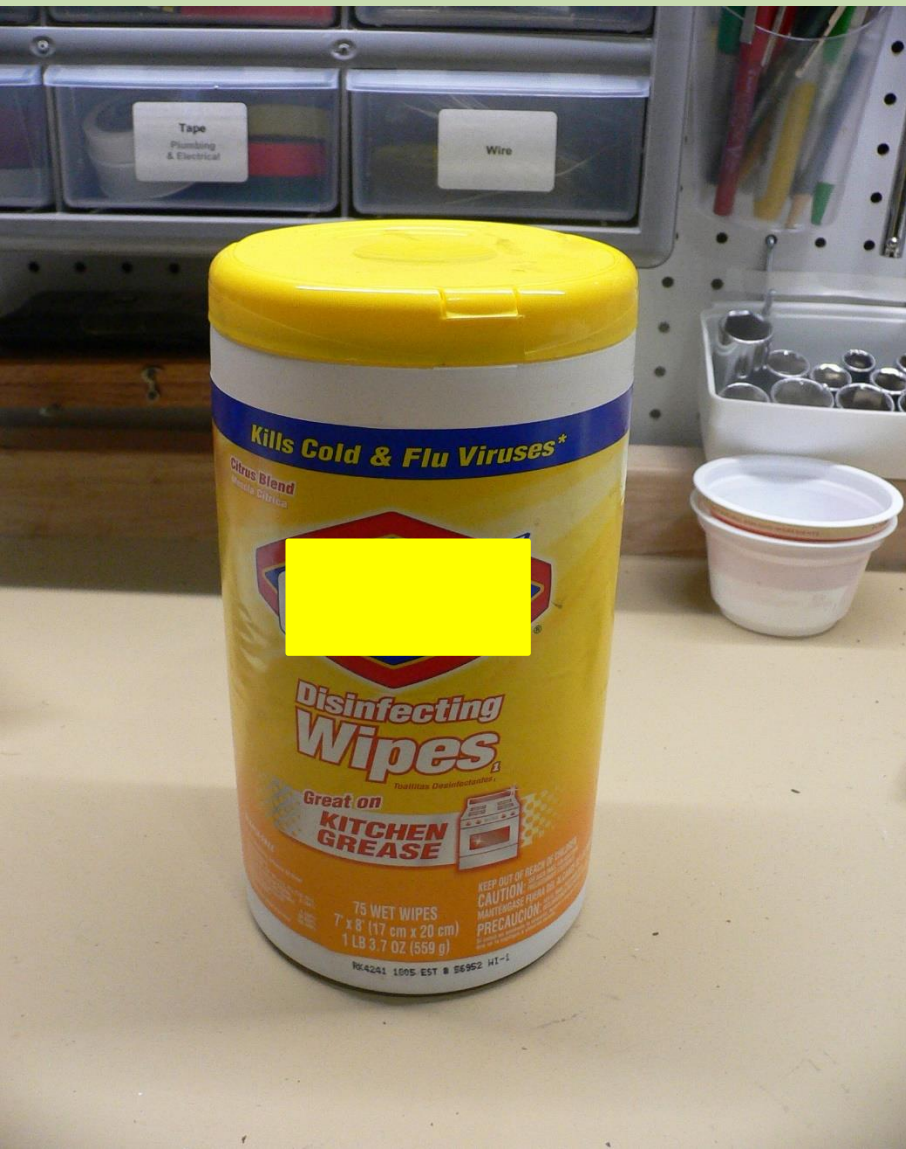
SEEDLING CONTAINERS



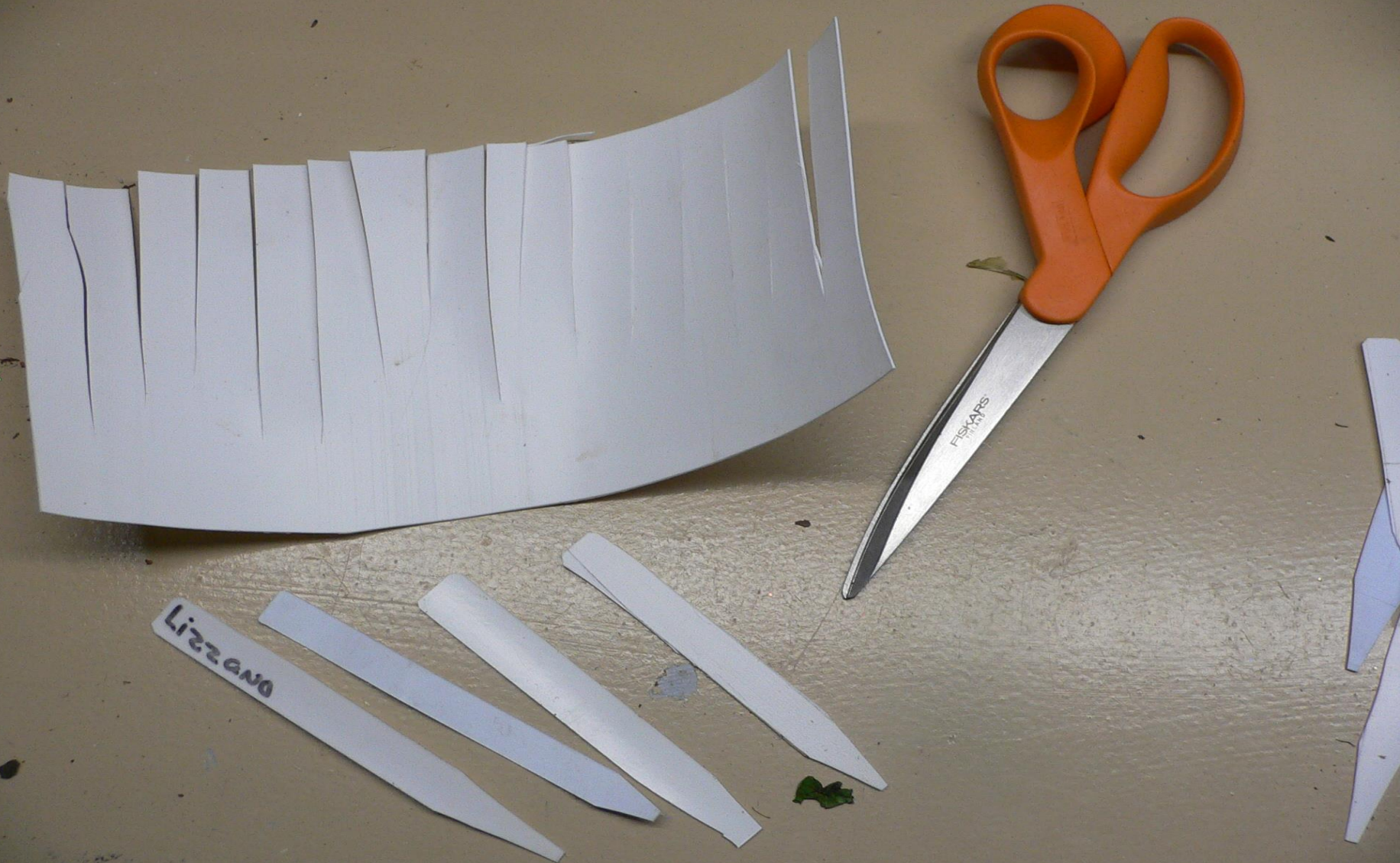
Plant Labels (Markers)



PLANT LABELS



PLANT LABELS



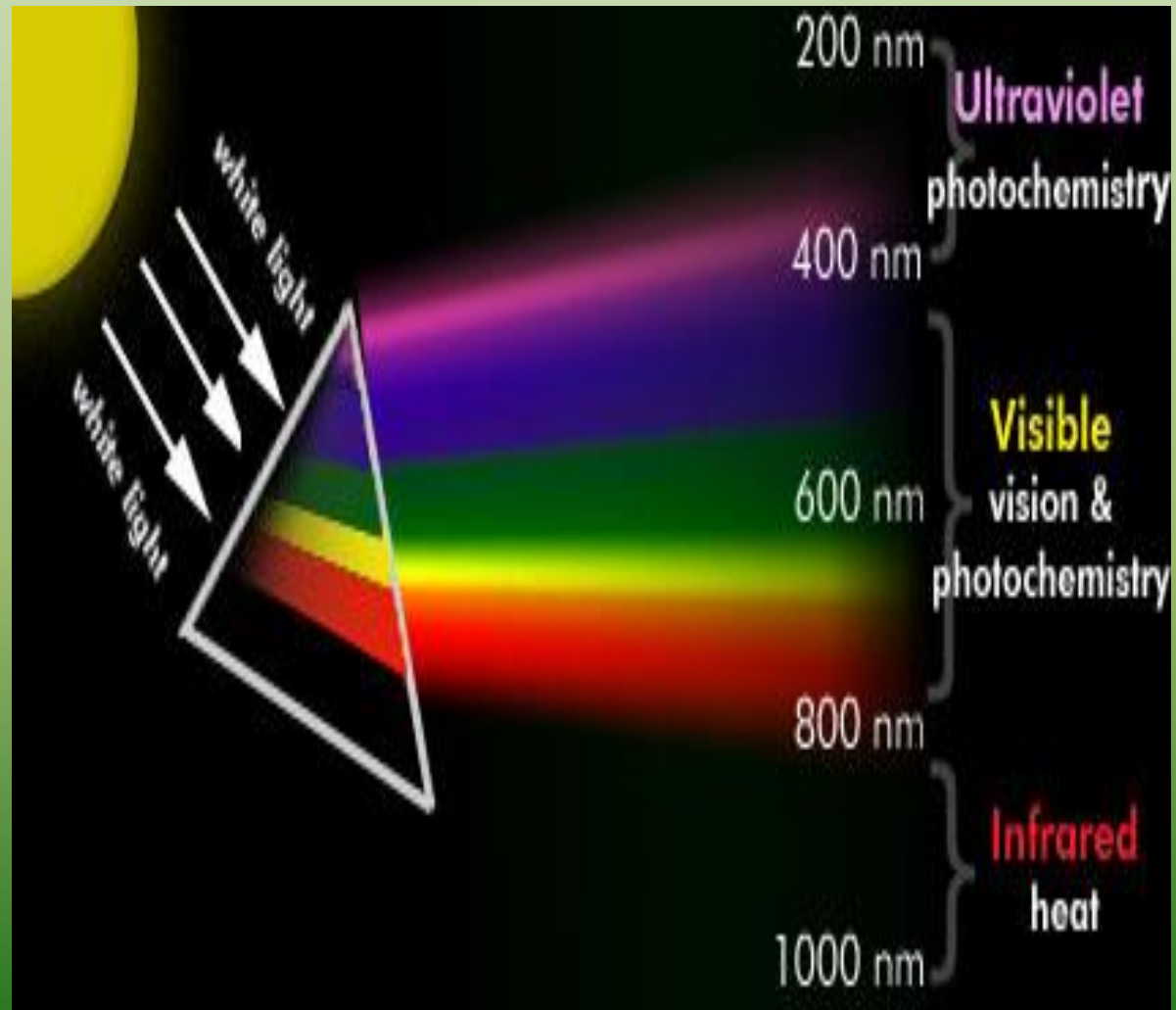
STARTING SEEDS INDOORS



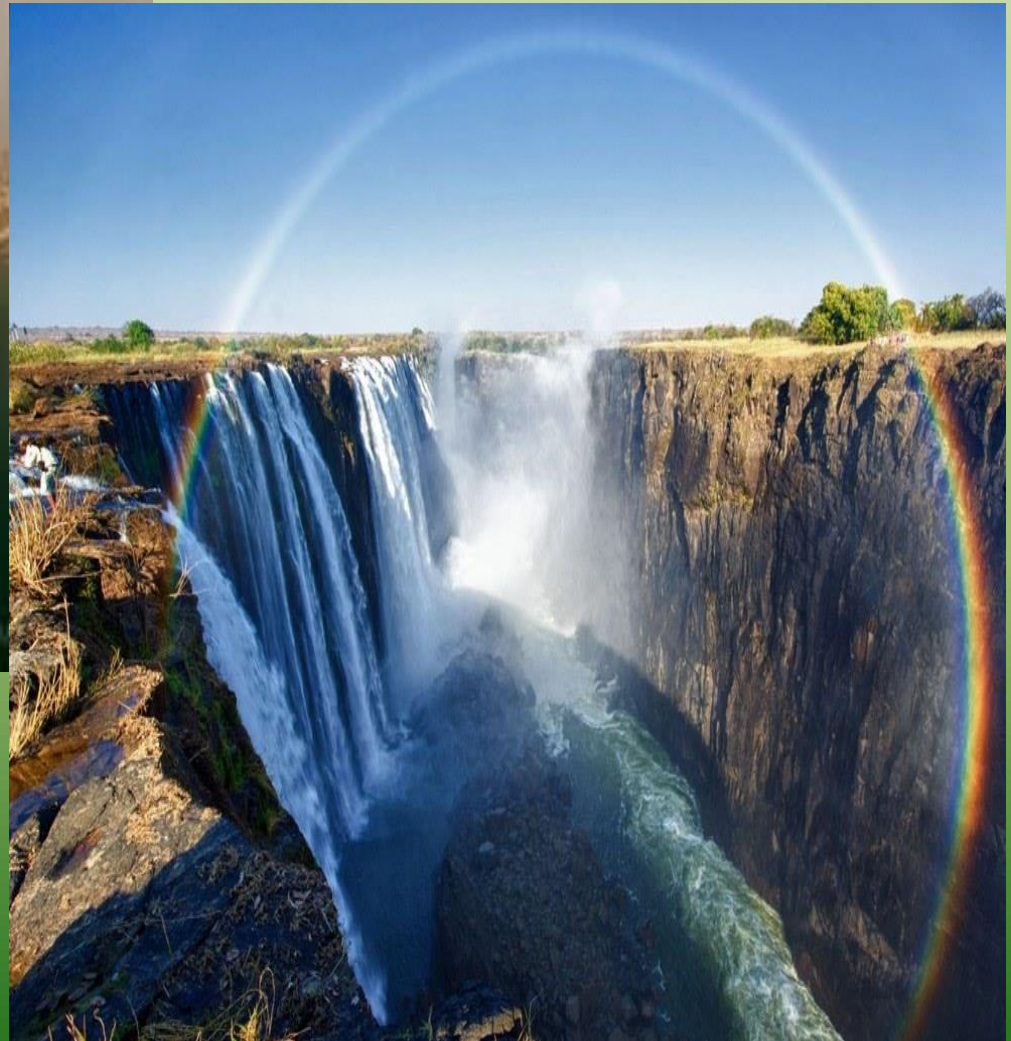
- FOR
- A
- BREAK

LIGHTING

- **White light** is light such as *sunlight* that contains all the colors of the visible spectrum in roughly equal amounts.

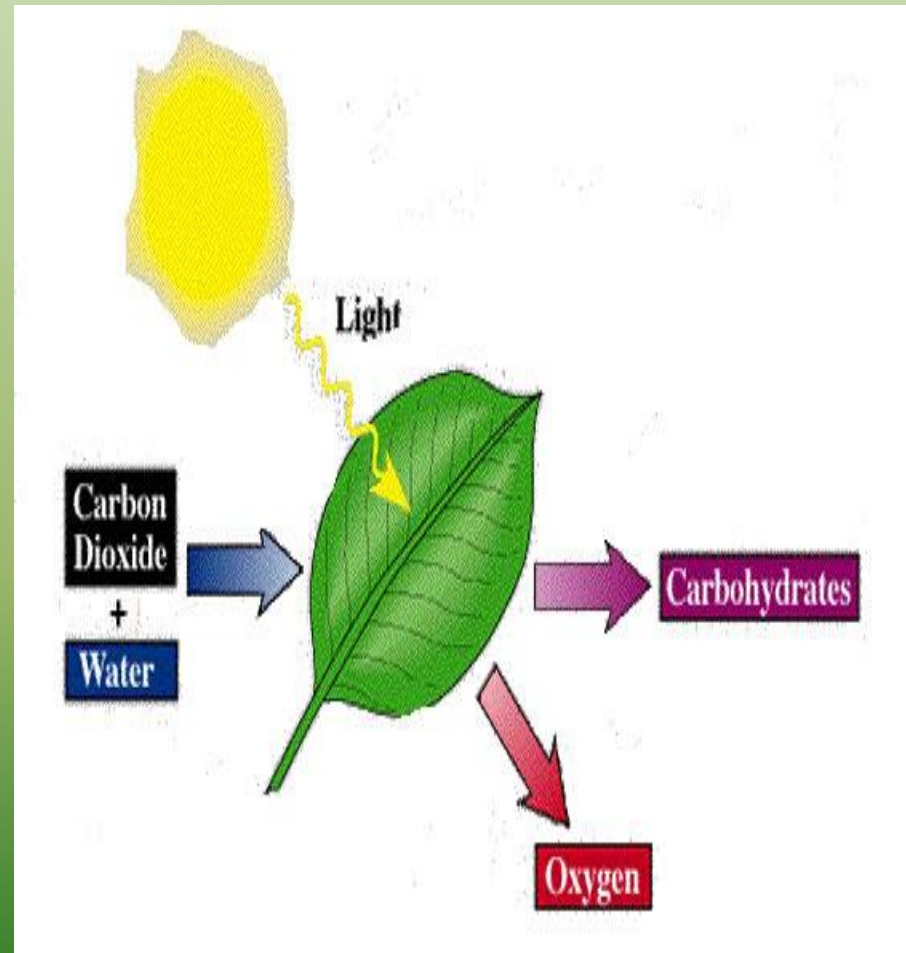






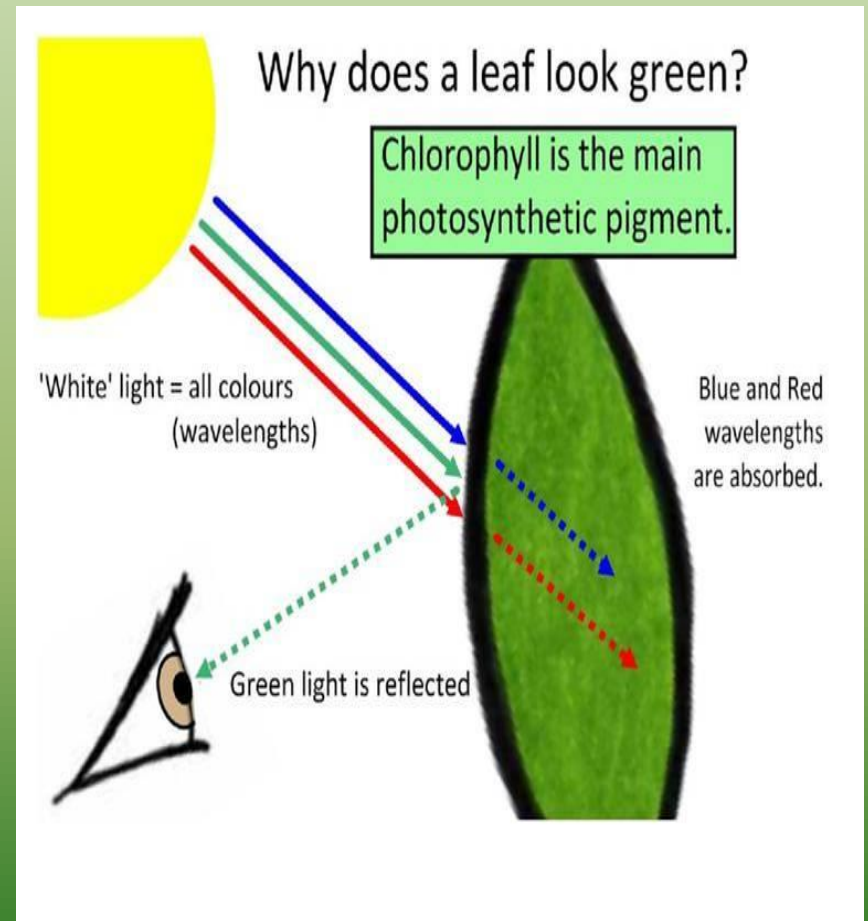
LIGHTING- PHOTOSYNTHESIS

Photosynthesis- plants use the energy in sunlight to convert CO₂ and water to sugar and oxygen. The plants use the sugar for food—food that we use, too, when we eat plants or animals that have eaten plants — and they release the oxygen into the atmosphere.

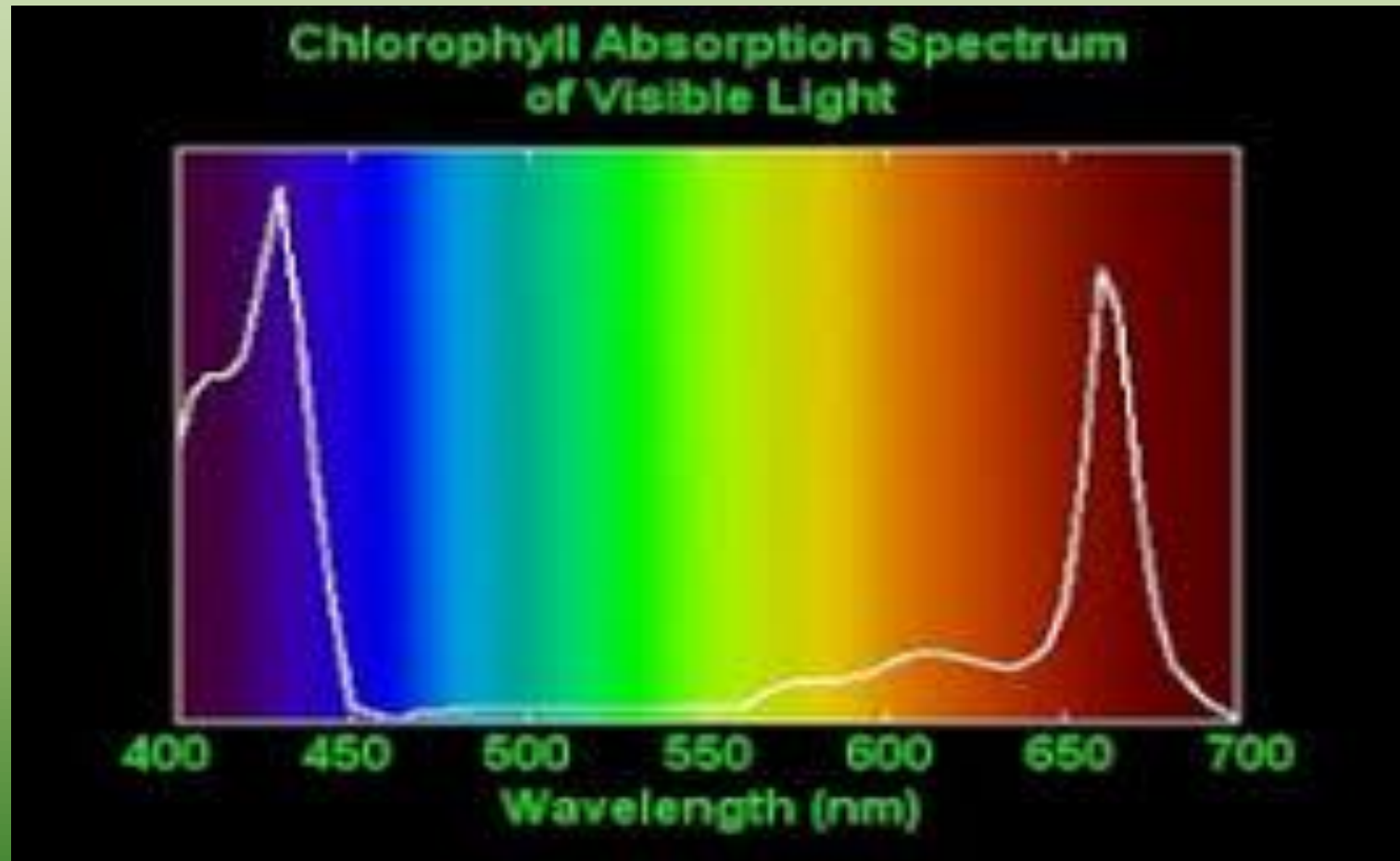


LIGHTING

- **Chlorophyll**, the green pigment common to all photosynthetic cells, absorbs all wavelengths of visible light except green, which it reflects. This is why plants appear green to us.

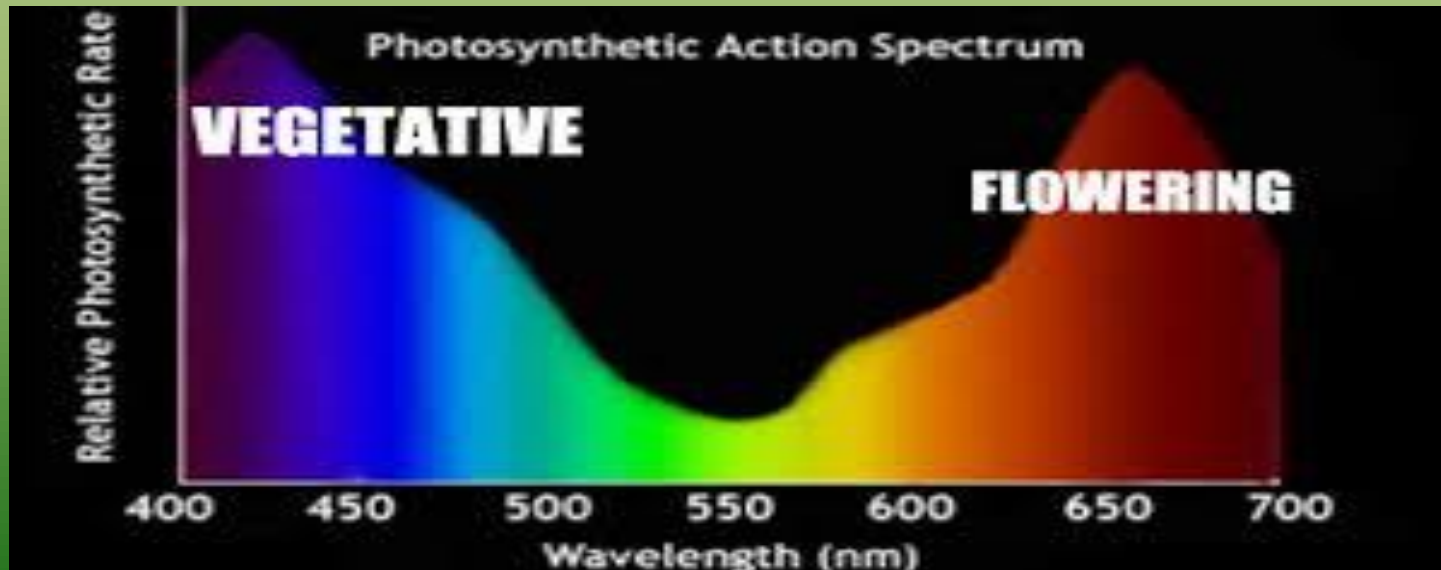


LIGHTING

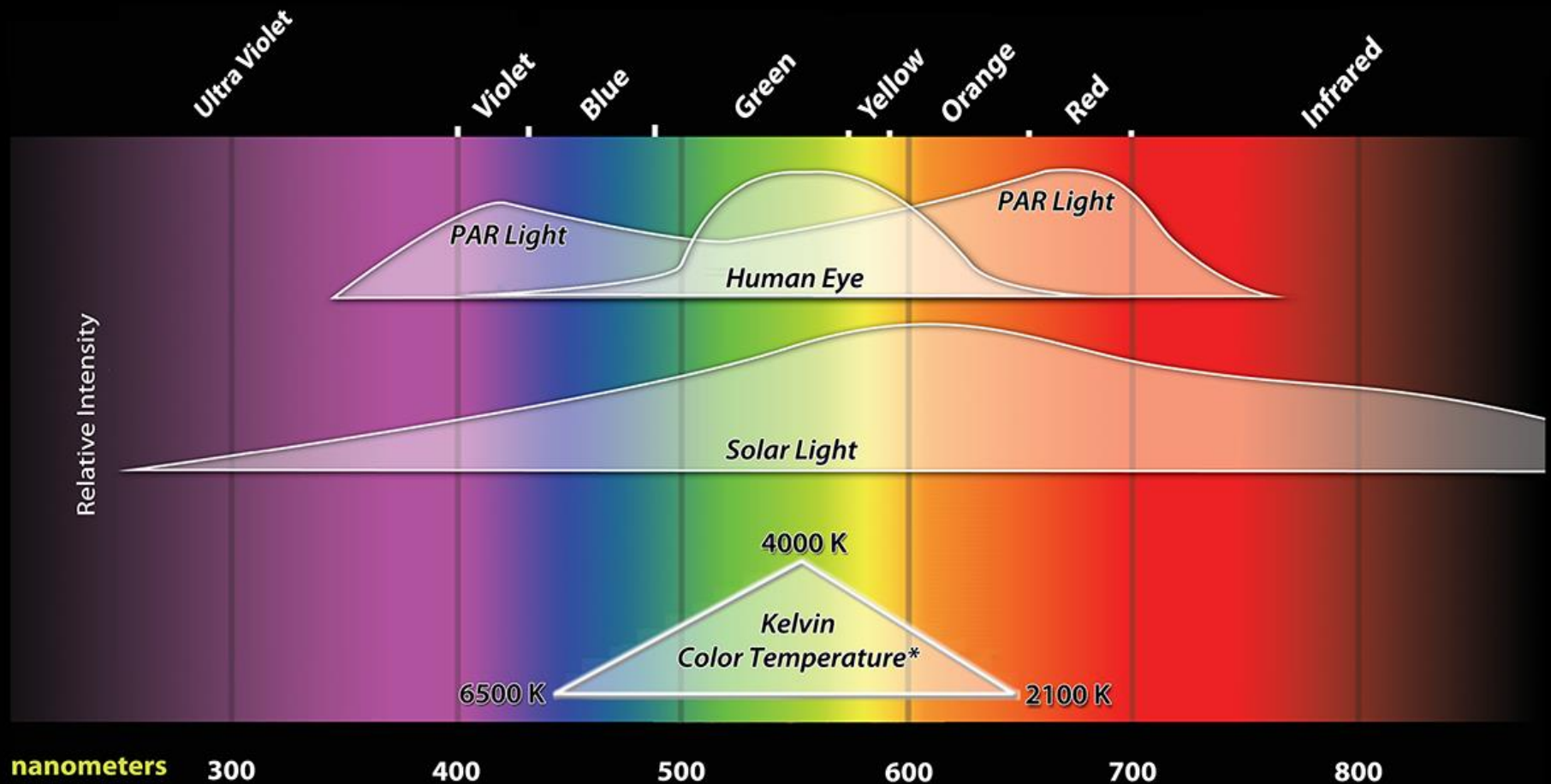


LIGHTING- TWO STAGES OF PLANT GROWTH

- **Vegetative**
- Cool blue spectrum is recommended for vegetative growth.
- **Flowering**
- Warm red spectrum is recommended for flowering.



LIGHTING -DEGREES KELVIN



Photosynthetically Active Radiation (PAR)
Is the amount of light available for photosynthesis.

ARTIFICIAL LIGHTING TERMS

1. **Wattage**-Watts are a measurement of power consumption.
2. **Lumens**-Lumens measure the output of light. In other words, lumens tell us how bright the light produced by a bulb will be.
3. **Degrees Kelvin**-Kelvin is a measurement used to describe the color temperature of a light source. This is the specification that gives a description of the warmth or coolness of a light source.



What you'll need – Light

Lighting designed to stimulate plant growth by emitting an electromagnetic spectrum appropriate for photosynthesis.

- CFL
- Fluorescent lights
- LED



Fluorescent Lights –Hanging Shop Lights, LED, and Spiral CFL Bulbs

- Available Home Improvement & hardware stores
- Look for
 1. “Daylight”
 2. “High color temperature 5000- 6500K.”
 3. Wattage –40 will work fine.



T-12, T 8, T-5 fluorescent tubes

- T8 bulbs have a slower period of decrease, losing only 10 percent of their initial brightness after 7,000 hours of use. In comparison, T12 bulbs can lose 20 percent, or double the T8 lose, after the same number of hours.
- T8 lamps use about 40% less energy than the older, now phased-out T12 lamps.



- T8 = \$3.00 - \$5.00
- T5 = \$5.50 - \$12.00



LED REPLACEMENT TUBES





Lighting Facts Per Bulb		Light Appearance	
		Warm	Cool
Brightness	1600 lumens		
Estimated Yearly Energy Cost	\$2.77		
Based on 3 hrs/day, 11¢/kWh			
Cost depends on rates and use			
Life Based on 3 hrs/day	9.1 years		
Energy Used	23 watts		

Contains Mercury (Hg)

For more on clean up and safe disposal, visit epa.gov/cfl.

plug

or

receipt of the returned bulb, register receipt and proof of purchase. Please call our toll-free
 act, abuse, misuse or acts of God. REPLACEMENT OR REFUND IS THE SOLE REMEDY
 IF THIS WARRANTY. LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IS
 This warranty gives you specific legal rights, and you may also have other rights which vary from

call 1-800-555-0050

to the \$110 required to run a 100 watt incandescent bulb rated at 1600 lumens over the

CFL lights are best
 for use in
 reflective Pans



FULL SPECTRUM LIGHT

Full-spectrum light is light that covers the electromagnetic spectrum from infrared to near-ultraviolet, or all wavelengths that are useful to plant or animal life; in particular, sunlight is considered full spectrum, even though the solar spectral distribution reaching Earth changes with time of day, latitude, and atmospheric conditions.

"Full-spectrum" is not a technical term when applied to an electrical light bulb but rather a marketing term implying that the product emulates natural light.

LED LIGHTING



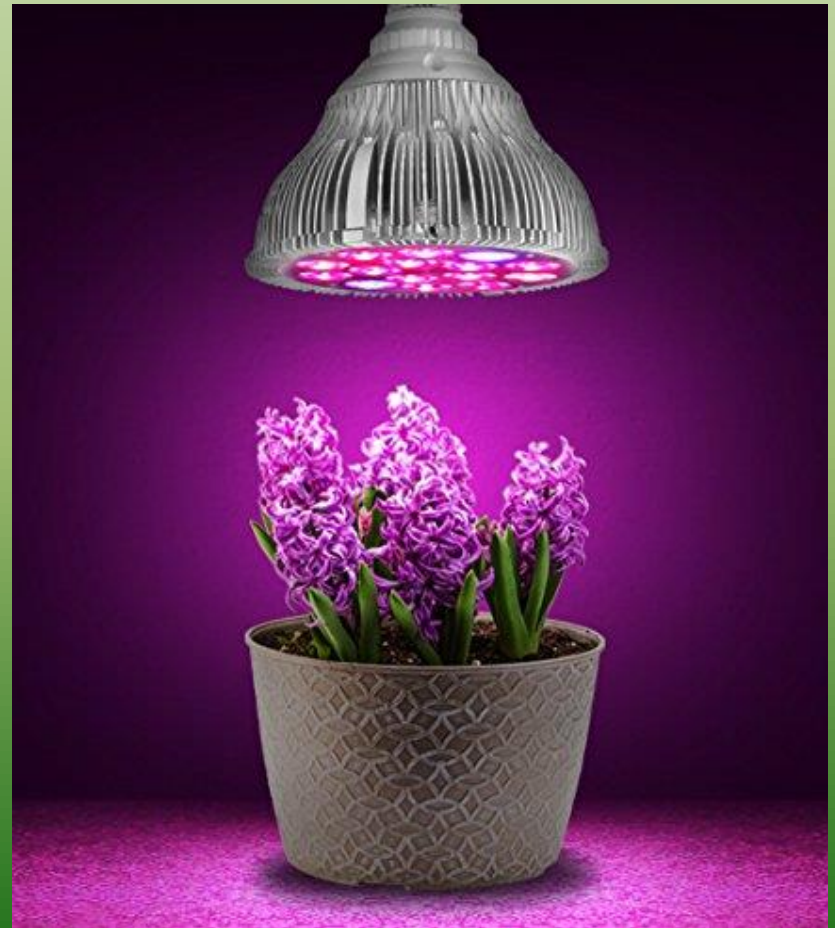
- A full 12-band light spectrum and selectable switch for 2 growth stages. You can grow almost anything indoors all year round.
- Costs: \$ ~~200~~ & up

LED LIGHTING

\$ 85



\$41



LED LIGHTING -5000K



- Not full spectrum
- Cost: ~~\$12~~
- Now \$6

LED 3-12



LED 3-14



LED 3-15



LED 3-16



LED 3-18



LED 3-19



LED 3-20



Color of light expressed As Degrees Kelvin

Approx. Color Temp. Scale	
Twilight	12000° K
Shade in Daylight	7500° K
Overcast	6500° K
Noon Daylight/Flash	5500° K
Warm Fluorescent	4000° K
Tungsten	3200° K
Sunrise/Sunset	3000° K
75 watt Bulb	2800° K
Candle Flame	1800° K
Midnight	0° K

~2700 K

60 W Incandescent

3500 K

13 W Fluorescent

5500 K

13 W Fluorescent



MOST ECONOMICAL LIGHTING



**DO NOT USE FOR SEED
STARTING!!!**

SPOT-GRO^{md}

Try our SPOT-GRO and GRO-LUX product line for all your indoor plant lighting needs.

For best results, the 65 watt SPOT-GRO lamp should be used at a distance of 1-3 feet above the plants. In no case should the lamp be closer than one foot.



**Essayez notre gamme de produits
SPOT-GRO et GRO-LUX destinés à
toutes vos utilisations d'éclairage
horticole intérieur.**

Pour obtenir de meilleurs
résultats, la lampe Spot-Gro de
65 watts devrait être utilisée
à une distance de 1 à 3
pieds au-dessus des

65 W

120V
***Highlights the beauty
of indoor plants.***
*Resalta la belleza de
plantas interiores.*

SPOT-GRO®



**1 BR30
BULB | BOMBILLA**

Indoor
INTERIOR

**Life
Vida**

2000
Hours
Horas



FLUORESCENT/LED LIGHTS NEED TO BE ADJUSTABLE!

1-2 INCHES ABOVE PLANTS



**ADJUST HEIGHT TO PLANTS
GROWTH**



WHAT YOU'LL NEED

Timer for lights
\$5-\$10

Heat mat (optional)
\$15- \$90



HEAT MAT

- Many seeds need 70 degree or higher temps to germinate. If your garage is cool, a heat mat provides bottom heat just until the seeds germinate. You could also use a warm spot in the house, such as the top of the refrigerator.

SHELF / RACK



PLANTING SEEDS

Seeds that need light to germinate

- Ageratum
- Balloon Flower
- Begonia
- Browallia
- Coleus
- Columbine
- Geranium
- Impatiens
- Lettuce
- Lobelia
- Nicotiana
- Osteospermum
- Petunias
- Poppies
- Snapdragons

Seeds that germinate with or without light

- Alyssum
- Aster
- Balsam
- Cole Crops
- Celosia
- Cosmos
- Cucumbers and Squash
- Dianthus
- Eggplant
- Marigold
- Melons
- Pepper
- Tomato
- Zinnia

LET'S GET STARTED

Fill tray with seed starting medium.



Moisten



Seed planting depth

Seeds should be planted at a depth of three times the thickness of the seed.

So, for example, if you've got a morning glory seed that's about $\frac{1}{4}$ of an inch thick, it should be planted around $\frac{3}{4}$ of an inch deep. Large bean seeds that can be $\frac{1}{2}$ inch thick or more may need to be planted 1 and $\frac{1}{2}$ to two inches deep.

Sowing seeds

Sow seeds & mist

Two seeds per cell



Cover & place on heat mat



PLACE ON FRIDGE



PLACE ON HEAT MAT



Keep moist

Mist at least once a day

Keep covered until germination

- Keep soil moist, but not soaked.
- Soilless mixture dries out faster than pellets



Voila!!

- 3-20 days after planting



GERMINATED, GIVE THEM LIGHT!



ISSUES -DAMPING OFF

Damping-off disease is the number 1 cause of bedding plant and seedling failures by home gardeners.

Damping off disease is the bane of home gardeners. It can kill your seeds as they germinate. It can also injure growing plants. Damping-off disease is a fungal disease that strikes potted plants often without warning. It will start with a white mold barely visible on the surface of the soil. If left unchecked, your baby plants will suddenly break off at the soil surface and fall over, dead, separated from their root system. If it strikes your seeds before germination, you won't even see a green sprout coming off your seeds.

DAMPING OFF



ISSUES – DAMPING OFF



DAMPING OFF



HOW TO PREVENT DAMPING OFF

Don't add any fertilizer to your pots when you are just planting the seeds. Fertilizer encourages mold and fungal growth. Fertilizer feeds mold and fungus, by increasing the available nitrogen – a necessary ingredient for both growth and decomposition. Your plants don't need to be fed until they've grown their first true leaves.

Several powdered spices are antifungal and antibacterial. Using one of these or a combination of spices on the surface of your soil, where damping off disease usually begins, will prevent it or stop it before it takes hold.



HOW TO PREVENT DAMPING OFF

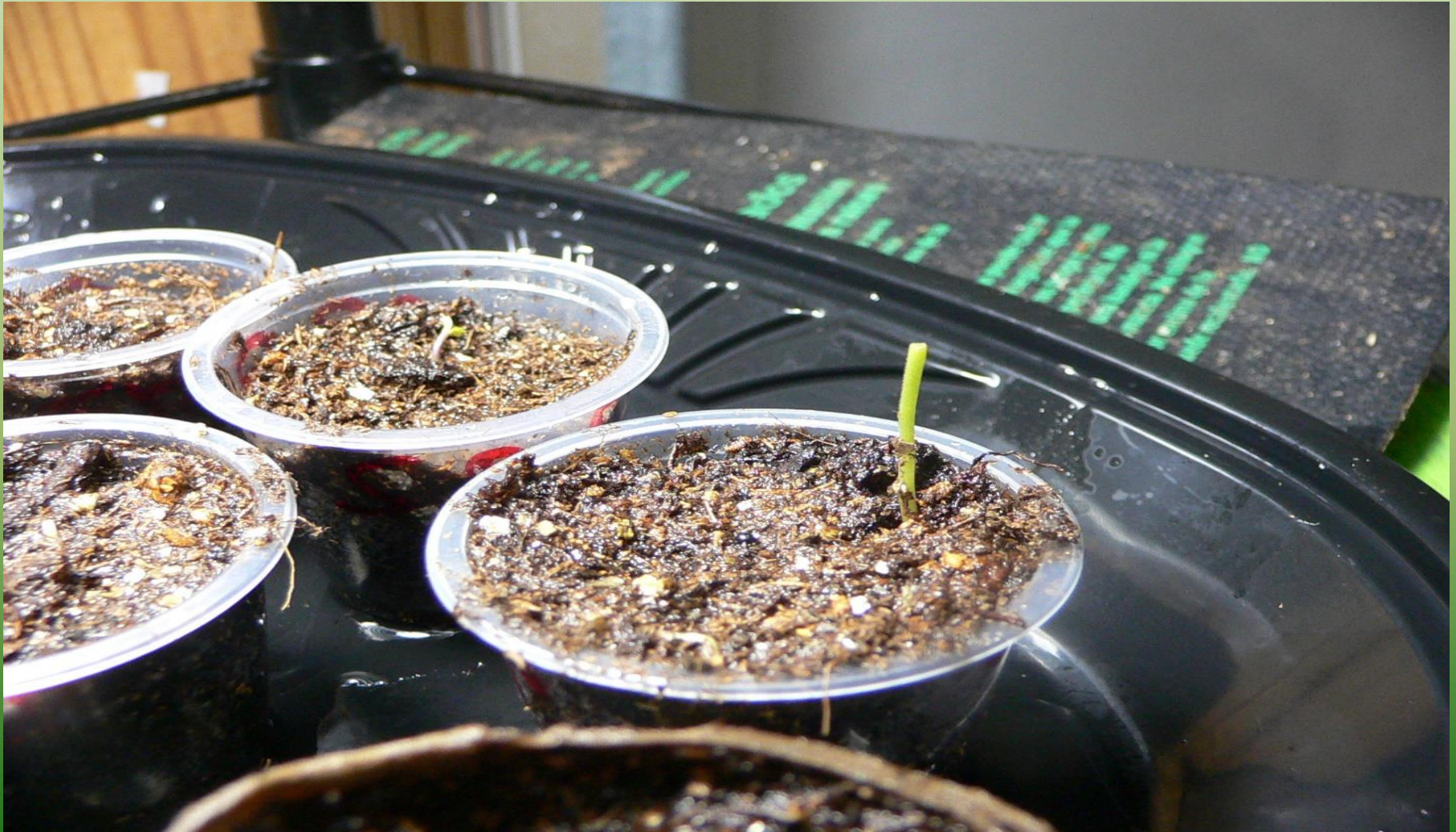
- Water with hydrogen peroxide:
- Add 1 tsp. of hydrogen peroxide to 2 cups of water and use this to water your plants. It helps to oxygenate the soil and helps to keep fungus spores from multiplying within your potting soil. Hydrogen peroxide super-oxygenates the soil, effectively killing bacterial and fungal spores.



ISSUES – HELMET HEAD



ISSUES



**KEEP SEEDLINGS WELL
WATERED-BUT NOT SOAKED!**



PLANT LIGHTING NEEDS

12-16 hours per day

Keep light 1-2" above seedlings



Cut smaller, weaker seedlings

- If more than one seed germinates and they are close together, never pull out - you may damage roots of remaining seedling.



**ONCE TRUE LEAVES APPEAR,
TRANSFER TO LARGER
CONTAINER OR**



**IF USING ONLY STARTING
MEDIUM, ADD FERTILIZER
WHEN TRUE LEAVES APPEAR**



Transferring seedlings

When seedling's true leaves appear, move to a larger container.

Pellets may be transferred without disturbing roots.



Transfer seedling to larger container

- Fill larger container ¼ with potting soil & moisten.
- Using spoon, gently scoop out seedling.
- Handle seedling by cotyledon, try not to touch stem.
- Place in container, fill with potting soil.
- Moisten
- Place under light



TRANSFERRING SEEDLINGS



Non transplanting method



Non transplanting method



CONTINUE TO ADJUST LIGHTS TO SIZE OF PLANTS.



HARDENING OFF

- Helping plants to acclimate to less than ideal conditions prior to transplant and avoid transplant shock.
- Hardening off simply means getting your seedlings used to outside conditions gradually. Give them a little more exposure to wind, sun, and temperature variations each day, until they are ready to be planted out. Although the process could be accomplished in as little as 3 days under ideal conditions, I like to give seedlings as much as a week to toughen up before transplanting them.





HARDENING OFF PLANTS

SUNBURN - WINDBURN



TOO MUCH MOISTURE- LOW TEMPERATURES



TOO MUCH MOISTURE – LOW TEMPERATURES



TRANSPLANTING IN GARDEN

Transplant seedlings on a calm, cloudy day, if possible. Late afternoon is a good time because plants can recover from the shock of transplanting without sitting in the midday heat and sun.



How to save seeds for next Year

Storing seeds

- As long as they stay dry, cool and dark the container is up to you. An ordinary envelope, labeled with variety and date will do, but a tightly-lidded jar is better.

HOW TO SAVE SEEDS FOR NEXT YEAR



ADD SILICA PACKETS



- Silica packets-Silica gel is most commonly encountered in everyday life as beads in a small (typically 2 x 3 cm) paper packet. In this form, it is used as a desiccant to control local humidity to avoid spoilage or degradation of some goods.

SEED VIABILITY

Vegetable Seed	Years
Asparagus	3
Bean	3
Beet	4
Broccoli	3-5
Brussels Sprouts	4
Cabbage	4-5
Carrots	3
Cauliflower	4-5
Celery	5
Corn	1-2
Cucumber	5
Eggplant	4-5
Kale	5
Kohlrabi	3-5
Leek	1
Lettuce	5-6
Muskmelon	5
Okra	2
Onion	1
Parsnip	1
Pea	3
Pepper	2-4
Pumpkin	4
Radish	5
Rutabaga	5
Spinach	3-5
Squash	4-5
Tomato	4
Turnip	5
Watermelon	5

Flower Seed	Years
Ageratum	4
Amaranthus	4-5
Anthemis	2
Anthirrhium	3-4
Calendula	5-6
Celosia	4
Cineraria	3-4
Clarkia	2-3
Cosmos	3-4
Digitalis	2
Eschscholzia	3
Gaillardia	2-3
Godetia	3
Helianthus	2-3
Heliotrope	1-2
Hollyhock	2-3
Impatiens	2
Larkspur	1-2
Linaria	3
Linum	1-2
Lobelia	4
Marigold	2-3
Nasturtium	5-7
Nicotiana	4-5
Nigella	2
Pansy	2
Petunia	2-3
Phlox	2
Salvia	1
Schizanthus	4-5
Sweet peas	2-3
Sweet William	2
Viola	1
Wallflower	4-5
Zinnia	5-6

Herb Seed	Years
Agrugula	3-4
Basil	5
Chives	1-2
Cilantro	5
Dill	5
Fennel	3-4
Marjoram	1
Oregano	1
Parsley	1-3
Sage	2

For more information:

<http://pubs.ext.vt.edu/426/426-001/426-001.html>

<https://content.ces.ncsu.edu/starting-plants-from-seeds>

REMEMBER:

USE QUALITY SEEDS

USE QUALITY SOILLESS MIXTURE

STERILIZE ANY PLASTIC CONTAINERS

**THIS JOB IS NOT EASY FOR
EVERYONE.**

**BUT HAY... ITS
IN MY JEANS**